UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,070	07/25/2003	Karl-Heinz Kuebler	VWS-555-A	3124

7590 04/28/2009

Andrew R. Basile
Young & Basile, P.C.
Suite 624
3001 West Big Beaver Road
Troy, MI 48084

EXAMINER	
CAMPBELL, THOR S	

ART UNIT	PAPER NUMBER
3742	

MAIL DATE	DELIVERY MODE
04/28/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/628,070	KUEBLER ET AL.	
	Examiner	Art Unit	
	/Thor S. Campbell/	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 February 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 8, 9, 12-15, 17-22 are rejected under 35 USC 103(a) as being unpatentable over Gusmer.(US 3782456) in view of Bochud.

Gusmer discloses an apparatus for heating fluid including a fluid source for supplying fluid for discharging from the reservoir; a heater means comprising a thermally conductive mass (1), CALROD type heating means (5), thermally coupled to the thermally conductive mass, imparting heat to the thermally conductive mass, a fluid first and second flow path (see figure 2, element 7 of each mass 1) formed in the mass between an inlet 9 and an outlet 11 , the fluid flow path coupled in heat transfer relation to the heating means so that fluid in the fluid flow path absorbs heat from the thermally conductive mass. It is noted that the method of making the device does not distinguish the device from the prior art having the structure claimed. Further, it is noted that the method of forming a fluid heating component, does not distinguish claim to a method of heating fluid over prior art showing all the steps of heating the fluid. It is noted that the use of the term CALROD as a limitation in the claim is interpreted to mean a resistive wire embedded in electrically insulating material further surrounded by a covering or sheath. Bochud

discloses insert molding a heater in a thermally conductive body in order to "entirely surround" and "ensure upon shrinking or cooling" the "securement" of the heating element. It would have been obvious to one of ordinary skill in the art to insert mold the heater in a monolithic thermally conductive mass (1) of Gusmer in order to eliminate the need for the through bolts to hold the two separate masses (1) together, and for the reasons delineated above. It would be further obvious to secure the heater of Bochud in place so to precisely locate said heater while insert molding the heater in the mass. discloses the claimed invention except for the framework being one-piece. It would have been an obvious to one having ordinary skill in the art at the time the invention was made to make the thermal mass (1) one-piece, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. Howard v. Detroit Stove Works, 150 U.S. 164 (1893).

Claim 16, 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gusmer in view of Bochud and common knowledge.

Gusmer/Bochud teaches the claimed invention except for an explicit teaching of connecting a ground to the heating element. It is well known in the art of fluid heating to connect a ground to the heating element for reasons of safety. Bochud teaches the benfits of insert molding, it would be obvious to one of skill to use the teachings of insert molding the heating elements to form a monolithic structures and apply the teaching to other elemental components of the heater assembly, e.g. ground terminals, temperature sensors etc..

Claims 3-4 are rejected under 35 USC 103(a) as unpatentable over Gusmer in view of Bochud and further in view of Cassidy.

Gusmer/Bochud discloses an apparatus for heating fluid including a fluid source for supplying fluid for discharging from the reservoir; a heater means comprising a thermally conductive mass (11) heating means (5), thermally coupled to the thermally conductive mass, imparting heat to the thermally conductive mass a fluid flow path formed in the mass between an inlet and an outlet, the fluid flow path coupled in heat transfer relation to the heating means so that fluid in the fluid flow path absorbs heat from the thermally conductive mass. Gusmenr/Bochud does not explicitly disclose a control means, connected to the heating means, for activating the heating means; and a thermally conductive medium coupled in heat transfer relationship between at least a portion of the control means and the thermally conductive.

Cassidy discloses *inter alia* a fluid heater comprising a fluid flow channel and a control means (104) connected to the heating means, for activating the heating means; and a thermally conductive medium (134) coupled in heat transfer relationship between at least a portion of the control means and the flow channel. It would have been obvious to one of ordinary skill in the art at the time the invention was made, in view of Cassidy, to modify the device of Gusmer to include *inter alia* a printed circuit board for controlling the heater, and to place the PCB in contact with the thermally conductive mass via a thermally conductive medium in order to maintain the compactness of the heating device while using waste heat generated by the control components to further heat.

Claims 5-7, 10-11 are rejected under 35 USC 103(a) as unpatentable over Gusmer and Bochud as described above and in view of Rochitelli.

Gusmer/Bochud discloses an apparatus for heating fluid including a fluid source for supplying fluid for discharging from the reservoir; a heater means comprising a thermally

conductive mass (1) heating means (5), thermally coupled to the thermally conductive mass, imparting heat to the thermally conductive mass a fluid flow path formed in the mass between an inlet and an outlet, the fluid flow path coupled in heat transfer relation to the heating means so that fluid in the fluid flow path absorbs heat from the thermally conductive mass. Gusmer/Bochud does not explicitly disclose a control means, connected to the heating means, for activating the heating means; and a thermally conductive medium coupled in heat transfer relationship between at least a portion of the control means and the thermally conductive.

Roccitelli discloses an apparatus for heating fluid including a fluid source for supplying fluid for discharging from the reservoir; a heater means comprising a thermally conductive mass (1) heating means (36), thermally coupled to the thermally conductive mass, imparting heat to the thermally conductive mass a fluid flow path formed in the mass between an inlet and an outlet, the fluid flow path coupled in heat transfer relation to the heating means so that fluid in the fluid flow path absorbs heat from the thermally conductive mass, a control means (39), connected to the heating means, for activating the heating means; and a thermally conductive medium (28, 29) coupled in heat transfer relationship between at least a portion of the control means and the thermally conductive.

Response to Arguments

Applicant's arguments filed 02/05/09 have been fully considered but they are not persuasive. Applicant argues that the art of record does not show or teach a thermally conductive mass having (1) a fluid flow path including a first and second channel formed therein between an inlet and an outlet and (2) said heating means disposed between the first and second

channels, the fluid flow path coupled in heat transfer relation to the heating means so that fluid in the fluid flow path absorbs heat from the thermally conductive mass, (3) the fluid flow path open to the exterior of the thermally conductive mass. It is clear that these elements are taught by the prior art. It is noted that Applicant further argues, that Applicants' heater discloses a fluid flow path wherein the fluid enters a first channel that runs along one side of the heating element and then enters the second channel that runs along another side of the heating element. The fluid does not exit the mass as it travels through the first and second channels. The same fluid passes through a substantially longer path on two sides of the heating element for more efficient heating. It is noted that Applicant has chosen the word "discloses" rather than "claims". The claims do not claim the limitations argued with respect to the flow from one path to the other along either side of the heating means. Further arguments as to the rejections of the dependant claims have not been made.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Thor S. Campbell/ whose telephone number is 571-272-4776. The examiner can normally be reached on Mon-Fri 5:30AM-2:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thor S. Campbell/
Primary Examiner
Art Unit 3742